

Mineral Industry Surveys

For information, contact:

Kim B. Shedd, Cobalt Commodity Specialist

U.S. Geological Survey

989 National Center

Reston, VA 20192

Telephone: (703) 648-4974, Fax: (703) 648-7757

E-mail: ksheddd@usgs.gov

JoAnn Sterling (Data)

Telephone: (703) 648-7953

Fax: (703) 648-7975

MINES FaxBack: (703) 648-4999

Internet: <http://minerals.er.usgs.gov/minerals>

COBALT IN AUGUST 1998

U.S. consumption of cobalt during January through August of 1998 was 5% higher than consumption during the first 8 months of 1997, according to the U.S. Geological Survey. Producers of catalysts, ground coat frits, and other alloys used more cobalt during this period as compared with the same period last year, while other cobalt-consuming industries used the same amount or less. U.S. imports of cobalt metal and cobalt contained in chemicals appear to be 17% lower during January through July of 1998 than imports during the first 7 months of 1997. However, some of the imports of cobalt metal from Belgium, Canada, Finland, Germany, and the United Kingdom were erroneously classified as waste and scrap. After the shipments in question have been verified and correctly classified by the Bureau of the Census, cobalt imports in 1998 should be more in line with those of 1997.

Note

With the exception of prices, all data in this report have been rounded to no more than three significant digits. Totals and percentages were calculated by using unrounded data.

Update

The Defense Logistics Agency (DLA), U.S. Department of Defense, accepted no bids at its October 28, 1998, bid opening for cobalt from the National Defense Stockpile. Two companies bid for cobalt. Glencore Ltd. of Stamford, CT, bid for seven lots at unit values ranging from \$11.00 to \$12.05 per pound of cobalt, and Quest Metals Ltd. of London, England, bid for one lot at a unit value of \$10.05 per pound of cobalt. The next bid opening for cobalt is scheduled for Wednesday, November 18, 1998 (Defense Logistics Agency, 1998b).

On October 22, the DLA announced a revised Annual Materials Plan (AMP) for the fiscal year that began October 1, 1998 (FY 1999). The AMP quantity for cobalt was unchanged at 2,720 metric tons, or 6 million pounds (Defense Logistics Agency, 1998a). For further information on DLA's cobalt sales program, please contact DLA's contracting officer for cobalt, June Olmsted, at (703) 767-5492.

The Cobalt Development Institute (CDI) presented revised cobalt production statistics for the years 1992 through 1997 and for January through June 1998 at its fall conference in Boston, MA, on September 18, 1998. The revised statistics are based on new criteria of which cobalt materials to include, in order to eliminate double-counting of materials produced by one company and further refined by another company. The CDI calculated cobalt availability, excluding cobalt from Russia, but including refinery production from all other countries, releases from the DLA and other stockpiles. Based on the new criteria, cobalt availability in 1997 was basically the same as that of 1996, at 24,957 metric tons, and cobalt availability for the first half of 1998 was 14,869 tons (Cobalt Development Institute, 1998).

Price

Prices for electrolytic cobalt, in dollars per pound, from Platt's Metals Week are listed below. The rapid decrease in prices has been attributed to various factors, ranging from supply-demand fundamentals to an intentional effort to lower prices.

<u>Week ending</u>	<u>Price range</u>
September 25	20.00-21.00
October 2	19.50-20.50
October 9	17.00-18.00
October 16	17.00-17.50
October 23	17.00-17.50

<u>Month</u>	<u>Average price</u>
September	20.84

References Cited

- Cobalt Development Institute, 1998, C.D.I. statistics: Cobalt Development Institute mini conference, Boston, MA, September 18, Proceedings, 3 p.
- Defense Logistics Agency, 1998a, FY 99 revised Annual Materials Plan: Fort Belvoir, VA, Defense Logistics Agency press release, October 22, 2 p.
- 1998b, Stockpile makes no cobalt award: Fort Belvoir, VA, Defense Logistics Agency press release, October 29, 1 p.

TABLE 1
U.S. REPORTED CONSUMPTION OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Metal 2/	Oxide and other chemical compounds 3/	Scrap	Total
1997:				
January-August r/	2,520	1,070	1,660	5,250
January-December 4/	3,720	1,600	2,510	7,830
Year 5/	4,180	1,700	2,530	8,400
1998:				
January	331	130	235	695
February	325	130	236	691
March	329	145	235	708
April	314	151	265	730
May	296	136	234	666
June	295	150	228	673
July	297 r/	141 r/	241	679 r/
August	282	158	235	675
January-August	2,470	1,140	1,910	5,520

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes metal powder.

3/ Data may include other cobalt materials.

4/ Data based on monthly reports.

5/ Includes annual reports.

TABLE 2
U.S. REPORTED CONSUMPTION OF COBALT, BY END USE 1/

(Metric tons, contained cobalt)

End use	1997			1998	
	January- August	January- December 2/	Year 3/	August	January- August
Steel:					
Stainless and heat resisting	25	38	38	3	25
Tool	72 r/	112	112	W	W
Superalloys	2,520 r/	3,720	4,060	295	2,500
Alloys (excludes steels and superalloys):					
Magnetic alloys	469 r/	719	778	54	456
Other alloys 4/	197 r/	294	342	32	253
Cemented carbides 5/	526 r/	789	789	55	458
Chemical and ceramic uses:					
Catalysts	468 r/	707	734	68	532
Driers in paints or related usage	369 r/	556	556	W	W
Ground coat frit	329 r/	490	490	65	512
Pigments	W	W	201	W	W
Miscellaneous and unspecified 6/	281 r/	406	300	104	778
Total	5,250 r/	7,830	8,400	675	5,520

r/ Revised. W Withheld to avoid disclosing company proprietary data; included with "Miscellaneous and unspecified."

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Data based on monthly reports.

3/ Includes annual reports.

4/ Includes nonferrous alloys, welding materials, and wear-resistant alloys.

5/ Includes diamond bit matrices, cemented and sintered carbides, and cast carbide dies or parts.

6/ Includes feed or nutritive additive, full-alloy steel, glass decolorizer, mill products made from metal powder, and data indicated by the symbol "W."

TABLE 3
U.S. REPORTED STOCKS OF COBALT MATERIALS 1/

(Metric tons, contained cobalt)

Period	Industry 2/				U.S. Government 3/ Metal
	Metal 4/	Oxide and other chemical compounds 5/	Scrap	Total	
1997:					
August	358	203	89	650	17,600
September	376	205	116	696	17,500
October	350	212	111	674	17,400
November	356	205	112	673	17,200
December 6/	382	203	112	698	17,100
Yearend 7/	419	206	113	738	17,100
1998:					
January	372	206	114	691	16,800
February	374	191	119	685	16,400
March	369	202	113	685	16,200
April	353	190	112	655	16,000
May	386	200	110	696	15,900
June	373	192	117	682	15,700
July	362 r/	207 r/	113	682 r/	15,400
August	366	221	116	704	15,400

r/ Revised.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Stocks reported by cobalt processors and consumers.

3/ Data from Defense Logistics Agency. Includes material committed for sale pending shipment.

4/ Includes metal powder.

5/ Data may include other cobalt materials.

6/ Data based on monthly reports.

7/ Includes annual reports.

TABLE 4
U.S. IMPORTS FOR CONSUMPTION OF COBALT, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Metals 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1997:								
July	550,000	\$26,400,000	120,000	\$4,760,000	265,000	\$2,680,000	707,000	5,100,000
August	560,000	26,700,000	139,000	4,890,000	128,000	1,330,000	695,000	5,800,000
September	662,000	29,500,000	141,000	5,090,000	138,000	1,380,000	800,000	6,600,000
October	359,000	17,400,000	84,500	3,050,000	137,000	1,380,000	457,000	7,050,000
November	657,000	30,800,000	79,700	3,180,000	96,700	942,000	740,000	7,790,000
December	512,000	24,700,000	79,600	2,870,000	257,000	2,290,000	638,000	8,430,000
January-December	7,070,000	328,000,000	1,130,000	42,800,000	2,000,000	19,200,000	8,430,000	XX
1998:								
January	584,000	26,400,000	115,000	4,230,000	174,000	1,770,000	712,000	712,000
February	462,000	20,900,000	110,000	4,300,000	142,000 7/	1,430,000 7/	579,000	1,290,000
March	503,000	23,000,000	81,700	2,710,000	137,000	1,340,000	598,000	1,890,000
April	583,000 7/	27,200,000 7/	114,000	4,110,000	99,000	935,000	691,000	2,580,000
May	462,000	22,000,000	94,800	3,490,000	237,000	2,180,000	594,000	3,170,000
June	479,000	22,700,000	89,100	3,170,000	61,400	669,000	559,000	3,730,000
July								
Belgium	37,200 7/	1,050,000 7/	33,500	1,400,000	--	--	61,300	262,000
Brazil	10,000	438,000	--	--	--	--	10,000	70,000
Canada	51,000	2,480,000	--	--	701	16,800	51,300	537,000
China	2,010	92,800	--	--	--	--	2,010	31,300
Congo (Kinshasa)	79,800 7/	3,370,000 7/	--	--	--	--	79,800	384,000
Finland	--	--	13,600	495,000	18,000	180,000	14,400	501,000
France	4,700	497,000	8,740	370,000	--	--	11,000	43,800
Germany	2,650	170,000	405	36,000	--	--	2,940	3,610
Italy	--	--	--	--	--	--	--	21
Japan	3,250	194,000	--	--	--	--	3,250	31,900
Korea, Republic of	--	--	--	--	--	--	--	297
Luxembourg	--	--	--	--	--	--	--	540
Netherlands	--	--	--	--	--	--	--	9
Norway	109,000	5,420,000	--	--	--	--	109,000	1,110,000
Russia	52,700	2,290,000	--	--	--	--	52,700	412,000
South Africa	11,500	524,000	--	--	--	--	11,500	26,200
Switzerland	--	--	--	--	--	--	--	30,400
United Kingdom	281	10,800	14,000	448,000	5,000	52,900	11,700	195,000
Zambia	88,000	4,050,000	--	--	--	--	88,000	600,000
Total	452,000	20,600,000	70,200	2,750,000	23,700	250,000	509,000	4,240,000

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Unwrought cobalt, excluding alloys; includes cobalt cathode and cobalt metal powder.

3/ Includes cobalt sulfates, cobalt chlorides, cobalt carbonates, and cobalt acetates.

4/ Customs value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 5
U.S. IMPORTS FOR CONSUMPTION OF ADDITIONAL COBALT MATERIALS, BY COUNTRY 1/

(Kilograms, gross weight of material, except as noted)

Period and country of origin	Unwrought cobalt alloys		Other cobalt: matte, waste and scrap 2/		Wrought cobalt and cobalt articles	
	Quantity	Value 3/	Quantity	Value 3/	Quantity	Value 3/
1997:						
July	15,300	\$520,000	36,700	\$680,000	18,600	\$1,130,000
August	6,540	293,000	24,700	561,000	21,500	1,250,000
September	4,030	226,000	69,900	671,000	21,400	1,070,000
October	9,580	336,000	30,100	595,000	13,000	772,000
November	11,400	582,000	69,900	955,000	9,080	555,000
December	26,700	828,000	13,500	281,000	14,200	947,000
January-December	129,000	5,410,000	448,000	7,920,000	235,000	12,900,000
1998:						
January	14,400	569,000	51,900 4/	1,080,000 4/	30,600	1,270,000
February	10,800	410,000	105,000 4/	3,850,000 4/	15,000	652,000
March	22,000	783,000	113,000 4/	4,500,000 4/	20,800	997,000
April	17,300	690,000	203,000 4/	6,940,000 4/	26,400	1,470,000
May	40,500	1,680,000	170,000 4/	6,460,000 4/	16,800	975,000
June	15,600	689,000	67,100 4/	2,250,000 4/	13,500	836,000
July:						
Belgium	12,400	465,000	3,100 4/	220,000 4/	4,940	48,800
Canada	447	23,000	27,700 4/	787,000 4/	2,230	369,000
Finland	--	--	18,700 4/	939,000 4/	--	--
France	--	--	5,470	174,000	2,820	167,000
Germany	--	--	7,990 4/	276,000 4/	560	61,100
Italy	--	--	--	--	2,000	29,500
Japan	302	19,600	540 4/	46,400 4/	3,870	188,000
Sweden	791	24,700	--	--	--	--
Switzerland	--	--	--	--	33	3,330
United Kingdom	525	48,700	16,300	167,000	6,470	419,000
Total	14,400	581,000	79,700	2,610,000	22,900	1,290,000

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ Includes other intermediate products of cobalt metallurgy; may include other cobalt-bearing materials from which cobalt is extracted, or from which cobalt-containing chemical compounds are manufactured.

3/ Customs value.

4/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 6
U.S. EXPORTS OF COBALT MATERIALS 1/

(Kilograms, gross weight of material, except as noted)

Period	Unwrought cobalt, powders, matte, waste and scrap 2/		Oxides and hydroxides		Salts and compounds 3/		Total cobalt content for the month 5/	Cobalt content, year to date 5/ 6/
	Quantity	Value 4/	Quantity	Value 4/	Quantity	Value 4/		
1997:								
July	58,600	\$2,860,000	55,600	\$1,630,000	40,200	\$520,000	108,000	990,000
August	81,600	3,290,000	32,600	595,000	94,200	442,000	128,000	1,120,000
September	62,900	2,010,000	42,500	1,060,000	177,000	1,180,000	136,000	1,250,000
October	63,100	3,180,000	36,800	1,190,000	59,500	588,000	104,000	1,360,000
November	102,000	2,560,000	31,500	931,000	20,100	191,000	130,000	1,490,000
December	44,300	2,150,000	44,900	1,230,000	22,700	334,000	82,200	1,570,000
January-December	1,050,000	40,800,000	548,000	15,000,000	511,000	4,100,000	1,570,000	XX
1998:								
January	98,900	3,840,000	22,100	624,000	21,700	118,000	120,000	120,000
February	83,700	3,330,000	46,300	1,200,000	113,000	1,120,000	144,000	264,000
March	96,100	3,210,000	41,300	1,020,000	13,900	209,000	129,000	393,000
April	78,700	3,360,000	64,500	1,290,000	35,100	292,000	134,000	527,000
May	65,000	3,180,000	34,900	841,000	150,000	519,000	126,000	653,000
June	47,900	2,310,000	56,300	1,380,000	26,100	238,000	94,700	748,000
July	65,600	2,580,000	39,400	1,190,000	180,000 7/	302,000 7/	137,000	885,000

XX Not applicable.

1/ Data are rounded to three significant digits; may not add to totals shown.

2/ May include other intermediate products of cobalt metallurgy, and unwrought cobalt alloys.

3/ Cobalt acetates and cobalt chlorides.

4/ Free alongside ship (f.a.s.) value.

5/ Estimated from gross weights.

6/ Year to date may include revisions to prior months.

7/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.

TABLE 7
U.S. EXPORTS OF WROUGHT COBALT, COBALT ORE, AND CONCENTRATES 1/

(Kilograms, gross weight of material, except as noted)

Period	Wrought cobalt and cobalt articles		Cobalt ore and concentrates	
	Quantity	Value 2/	Quantity	Value 2/
1997:				
July	34,300	\$1,640,000	--	--
August	36,400	2,700,000	285	\$33,500
September	23,500	1,220,000	32,700	282,000
October	131,000	5,080,000	136	4,430
November	44,700	2,690,000	7,940	109,000
December	26,800	1,330,000	11,300	87,000
January-December	759,000	36,600,000	56,400	589,000
1998:				
January	31,800	1,710,000	44,500 3/	1,760,000 3/
February	35,400	1,710,000	18,700 3/	801,000 3/
March	34,800	1,780,000	33,900 3/	2,480,000 3/
April	27,500	1,880,000	81,000 3/	2,220,000 3/
May	51,100	1,780,000	2,490 3/	39,000 3/
June	42,200	2,430,000	79,700 3/	1,450,000 3/
July	21,800	1,730,000	58,100 3/	1,630,000 3/

1/ Data are rounded to three significant digits.

2/ Free alongside ship (f.a.s.) value.

3/ All or part of these data have been referred to the Bureau of the Census for verification.

Source: Bureau of the Census.